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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/676,620

09/30/2003

Michael R. Harris

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20575

7590

03/20/2008

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EXAMINER

LAO, LUN S

ART UNIT

PAPER NUMBER

2615

MAIL DATE

DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/676,620

Applicant(s)

HARRIS, MICHAEL R.

Examiner

LUN LAO

Art Unit

2615

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 December 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 4, 6-19 and 22-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 4, 6-19 and 22-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB-08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Introduction

1. This action is in response to the amendment filed on 12-17-2007. Claims 1, 4, 6-16, 19 and 23-24 have been amended and claim 2-3, 5, 20-21 have been canceled. Claims 1, 4, 6-19 and 22-24 are pending.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12-17-2008 has been entered.

Claim Objections

3. Claim 1 is objected to because of the following informalities: claim 1 recites "an FM" on lines 1, which appears to be --a FM--. Appropriate correction is required.

Claim 13 is objected to because of the following informalities: claim 13 recites "an FM" on lines 4 and last line, which appears to be --a FM--. Appropriate correction is required.

Drawings

4. The drawings are objected to because the formal drawings(no hand writing) are required. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

5. The amendment filed 08-15-2007 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: "the processor is

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configured to time-division multiplex the digitally encoded speech and the audio signal to generate the combined signal"; and "the processor is configured to time- domain multiplex the digitally encoded speech and the audio signal to generate to combined audio signal". Applicant is required to cancel the new matter in the reply to this Office Action.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claims 6 and 8 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 6 recited "the processor is configured to time-division multiplex the digitally encoded speech and the audio signal to generate the FM signal". However, the specification does not clearly disclose how the processing of "the signal combiner is configured to time-division multiplex the digitally encoded speech and the audio signal to generate the combined signal" will be performed. It was not supported in the specification nor in any figures presented.

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8. Claims 16 and 24 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claims 16 and 24 recited "the processor is configured to time- domain multiplex the digitally encoded speech". However, the specification does not clearly disclose how the processing of "the processor is configured to time- domain multiplex the digitally encoded speech" will be performed. It was not supported in the specification nor in any Figures presented.

These claims 6, 8, 16 and 24 will be rejected base on the examiner's best understanding.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 13 and 17-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Bullock et al. (US PAT. 5,351,186).

Consider claim 13 Bullock teaches a transceiver, comprising:

a radio data system (see figs. 2-4) modulator configured to generate a modulated text data signal in response to a broadcast audio transmission including text data and an audio signal, the text data being descriptive of the audio signal (see col. 7 line 5-22);

a frequency modulation (FM) encoder configured to generate an FM encoded audio signal in response to the audio signal;

a signal combiner (CPU) configured to combine the modulated text data signal and the FM encoded audio signal into a combined signal; and

an FM transmitter configured to transmit the combined signal (see col. 4 line 12-col. 5 line 12 and col. 6 line 29-col. 7 line 22).

Consider claims 17-18 Bullock teaches a housing in which the receiver and at least one of the RDS modulator, the FM encoder, the signal combiner, and the FM transmitter are mounted (see figs 2-4 and col. 4 line 12-col. 5 line 12); and the transceiver wherein each of the RDS modulator, the FM encoder, the signal combiner, and the FM transmitter are mounted in the housing(see figs 2-4 and col. 4 line 12-col. 5 line 12).

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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12. Claims 1, 4, 9 and 12, 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bullock et al. (US PAT. 5,351,186) in view of Ohnishi (US PAT 5,682,431).

Consider claim 1 Bullock teaches that an FM transmitter comprising:

a processor (see figs 2-4), configured to receive text data associated with an audio signal and to convert the text data into digitally encoded speech and to encode the audio signal and the encoded speech according to a FM standard into a FM digitally signal (see col. 7 line 5-22); but Bullock does not explicitly teach a converter configured to convert the FM digital signal into an analog FM signal.

However, Ohnishi teaches a converter configured to convert the FM digital signal into an analog FM signal(see fig.4 and col. 6 line 33-col. 7 line 45).

On the other hand, Bullock as modified by Ohnishi teaches a transmitter configured to transmit the analog FM signal(see col. 4 line 12-col. 5 line 12 and col. 6 line 29-col. 7 line 22).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Ohnishi into Bullock so that the data will be easily to transmit and prevent the interference noise.

Consider claim 4 Bullock as modified by Ohnishi teaches that a band-pass filter configured to filter the analog FM signal to exclude signal components outside of a range of frequencies according to an RDS standard (f_0 - f_c in fig.4 and see col. 6 line 34-col. 7 line 50).

Consider claim 9 Bullock teaches the FM transmitter wherein: an auxiliary audio device is configured to generate the audio signal; and the processor is a control processor of the auxiliary audio device(see figs 2-4 and col. 4 line 12-col. 5 line 12).

Consider claim 12 Bullock teaches a housing to which the processor, the convert, and the transmitter are mounted, the housing comprising: an audio input to receive the audio signal from an auxiliary audio device; and a data input to receive the text data from the auxiliary audio device; wherein the housing is physically distinct from the auxiliary audio device (see figs 2-4 and col. 4 line 12-col. 5 line 12 and col. 6 line 29-col. 7 line 22).

Consider claim 15 Bullock teaches the transceiver further comprising:

a processor configured to convert the text data into digitally encoded speech and to encode the digitally encoded speech and the audio signal into a combined FM digital audio signal (see col. 4 line 12-col. 5 line 12 and col. 6 line 29-col. 7 line 22); but Bullock does not explicitly teach a converter configured to convert the combined FM digital audio signal into a combined FM analog audio signal.

However, Ohnishi teaches a converter configured to convert the combined FM digital audio signal into a combined FM analog audio signal (see fig.4 and col. 6 line 33-col. 7 line 45).

Therefore, it would have been obvious to one of the ordinary skill in the art at the time the invention was made to combine the teaching of Ohnishi in to Bullock so that the data will be easily to transmit and prevent the interference noise.

13. Claims 14, 19 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bullock et al. (US PAT. 5,351,186) in view of Lee (US PAT 6,374,177).

Consider claim 14 Bullock does not explicitly teach the transceiver further comprising: a satellite audio receiver comprising a processor; and at least one of the RDS modulator, the FM encoder, and the signal combiner are implemented in the processor of the satellite audio receiver.

However, Lee teaches a satellite audio receiver comprising a processor; and at least one of the RDS modulator, the FM encoder, and the signal combiner are implemented in the processor of the satellite audio receiver (see figs 1-3 and col. 2 line 13-59, col.6 line 33-67).

Therefore, it would have been obvious to one of the ordinary skill in the art at the time the invention was made to combine the teaching of Lee in to Bullock provide satellite radios to transmit over large geographic areas and for international internet audio broadcasts. so that the transmission frequencies undergo a hopping sequence for increasing the power at which the signals are transmitted.

Consider claim 19 Bullock teaches a storage device; a processor configured to receive an audio signal and text data descriptive of the audio signal from the storage device to generate a modulated text data signal from the text data, to encode the audio signal into an FM encoded audio signal~ to combine the modulated text data and the FM encoded audio signal into a combined audio signal, and to convert the combined audio signal into an FM signal; and a frequency modulation (FM) transmitter configured

to transmit the FM signal(see figs 2-4 and col. 4 line 12-col. 5 line 12 and col. 6 line 29-col. 7 line 22); But Bullock does not explicitly a handheld audio player.

However, Lee teaches a handheld audio player (see fig.2).

Therefore, it would have been obvious to one of the ordinary skill in the art at the time the invention was made to combine the teaching of Lee into Bullock so that the computer device will be easy for user to carry around.

Consider claim 22 Bullock as modified by Lee teaches the handheld audio player is one of a compact disc (CD) player, a flash player, an MP3 player, and a hard disk drive (HDD) jukebox (Lee, see figs 1-2 and col. 2 line 13-59, col. 4 line 46-57, col.6 line 33-67).

14. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bullock et al. (US PAT. 5,351,186) in view of Ishii (US 2002/0132612).

Consider claim 16 Bullock teaches the audio signal to generate the combined FM digital audio signal(see col. 4 line 12-col. 5 line 12 and col. 6 line 29-col. 7 line 22); but Bullock does not explicitly teach the processor is configured to time-domain multiplex the digitally encoded speech.

However, Ishii teaches the signal combiner is configured to time-division multiplex the digitally encoded speech and the audio signal to generate the combined signal (see fig.1 and page 4 [0048]-[0050]).

Therefore, it would have been obvious to one of the ordinary skill in the art at the time the invention was made to combine the teaching of Ishii into Bullock so that the

transmission frequencies undergo a hopping sequence for increasing the power at which the signals are transmitted.

15. Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bullock et al. (US PAT. 5,351,186) as modified by Ohnishi (US PAT 5,682,431) as applied to claim 1 above and further in view of Ishii (US 2002/0132612).

Consider claim 6 Bullock as modified by Ohnishi teaches the audio signal to generate the combined FM digital audio signal(see col. 4 line 12-col. 5 line 12 and col. 6 line 29-col. 7 line 22); but Bullock does not explicitly teach the processor is configured to time-domain multiplex the digitally encoded speech.

However, Ishii teaches the signal combiner is configured to time-division multiplex the digitally encoded speech and the audio signal to generate the combined signal (see fig.1 and page 4 [0048]-[0050]).

Therefore, it would have been obvious to one of the ordinary skill in the art at the time the invention was made to combine the teaching of Ishii into the teaching of Bullock and Ohnishi so that the transmission frequencies undergo a hopping sequence for increasing the power at which the signals are transmitted.

Claim 8 is essentially similar to claim 6 and rejected for the reason stated above apropos to claim 6.

Consider claim 7 teaches the processor is a programmed processor comprising code to control the processor to convert the text data into the digitally encoded speech(see figs 2-4 and col. 6 line 29-col. 7 line 22).

16. Claim 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bullock et al. (US PAT. 5,351,186) as modified by Ohnishi (US PAT 5,682,431) as applied to claim 1 above and further in view of Lee (US PAT. 6,374,177).

Consider claim 10 Bullock does not explicitly teach that the auxiliary audio device is a device selected from a group consisting of a CD player, a CD- MP3 player, a universal satellite receiver, and a digital audio broadcast receiver (see fig.2).

However, Lee teaches that the auxiliary audio device is a device selected from a group consisting of a CD player, a CD- MP3 player, a universal satellite receiver, and a digital audio broadcast receiver (see figs 1-3 and col. 2 line 13-31, col. 6 line 33-67); Therefore, it would have been obvious to one of the ordinary skill in the art at the time the invention was made to combine the teaching of Lee into the teaching of Bullock and Ohnishi so that the user has more choice to select the entertainment device.

Consider claim 11 Bullock as modified by Lee teaches the FM transmitter further comprising a wireless remote control receiver, coupled to the auxiliary audio device, the wireless remote control receiver to receive commands to control the auxiliary audio device and to receive commands to select text data to be transmitted in the FM signal (Lee, see figs 1-3 and col. 2 line 13-31, col. 6 line 33-67).

17. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bullock et al. (US PAT. 5,351,186) as modified by Lee (US PAT. 6,374,177) as applied to claim 19 above and further in view of Ohnishi (US PAT 5,682,431).

Consider claim 23 Bullock as modified by Lee teaches that the processor is configured to convert the text data into digitally encoded speech and to combine the digitally encoded speech and the audio signal into a combined digital audio signal(see col. 7 line 5-22); but Bullock does not explicitly teach a converter configured to convert the combined audio signal into a combined analog audio signal.

However, Ohnishi teaches a converter configured to convert the combined audio signal into a combined analog audio signal (see fig.4 and col. 6 line 33-col. 7 line 45).

On the other hand, Bullock as modified by Ohnishi teaches a transmitter configured to transmit the analog FM signal (see col. 4 line 12-col. 5 line 12 and col. 6 line 29-col. 7 line 22).

Therefore, it would have been obvious to one of the ordinary skill in the art at the time the invention was made to combine the teaching of Ohnishi into the teaching of Bullock and Lee so that the data will be easily to transmit and prevent the interference noise.

18. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bullock et al. (US PAT. 5,351,186) as modified by Lee (US PAT. 6,374,177) and Ohnishi (US PAT 5,682,431) as applied to claims 19 and 23 above, and further in view of Ishii (US 2002/0132612).

Consider claim 24 Bullock as modified by Lee and Ohnishi teaches the audio signal to generate the combined digital audio signal(see col. 4 line 12-col. 5 line 12 and col. 6 line 29-col. 7 line 22); but Bullock does not explicitly teach the processor is configured to time-domain multiplex the digitally encoded speech.

However, Ishii teaches the signal combiner is configured to time-division multiplex the digitally encoded speech and the audio signal to generate the combined signal (see fig.1 and page 4 [0048]-[0050]).

Therefore, it would have been obvious to one of the ordinary skill in the art at the time the invention was made to combine the teaching of Ishii into the teaching of Bullock, Lee and Ohnishi so that the transmission frequencies undergo a hopping sequence for increasing the power at which the signals are transmitted.

Response to Arguments

19. Applicant's arguments with respect to claims 1, 4, 6-19 and 22-24 have been considered but are moot in view of the new ground(s) of rejection.

Regarding the claim 13 objection, the applicant does not replace the "an FM" with "a FM". Therefore, the objection is maintained.

Applicant argued there is support in the Specification for the Objections and Claim Rejections Under § 112 (see the remarks page 8 second paragraph).

The examiner disagrees. The examiner can not find any support in the cited area as indicated by the applicant such as "the digital data signal and the digital audio signal are applied to a processor 412, that, with the memory 414, forms a software based text to speech converter and stereo encoder 410, Figure 5 is a flow chart useful for describing the text to speech conversion for the system shown in Figure 4" which the applicant points out. However, the examiner find neither specification describing " time-division

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multiplex the FM data signal" nor in any figures. Therefore, the 112 first paragraph rejection maintained. See the new ground rejection.

Conclusion

20. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kleinschmidt et al. (US PAT. 6,085,112) is cited to show other related intergrated short range RDS FM transmitter.

21. Any response to this action should be mailed to:

Mail Stop ____ (explanation, e.g., Amendment or After-final, etc.)

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Facsimile responses should be faxed to:
(571) 273-8300

Hand-delivered responses should be brought to:
Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lao,Lun-See whose telephone number is (571) 272-7501. The examiner can normally be reached on Monday-Friday from 8:00 to 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin, can be reached on (571) 272-7848.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 whose telephone number is (571) 272-2600.

Lao,Lun-See

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/Lun-See Lao/
Examiner, Art Unit 2615
Patent Examiner
US Patent and Trademark Office
Knox
571-272-7501
Date 03-14-2008

/Vivian Chin/

Supervisory Patent Examiner, Art Unit 2615